"Oils and Fats Chemistry Handbook"

(Revised 2nd Edition) edited by Japan Oils and Fats Chemistry Society; published on November 30, 1971 by Maruzen Co., Ltd.

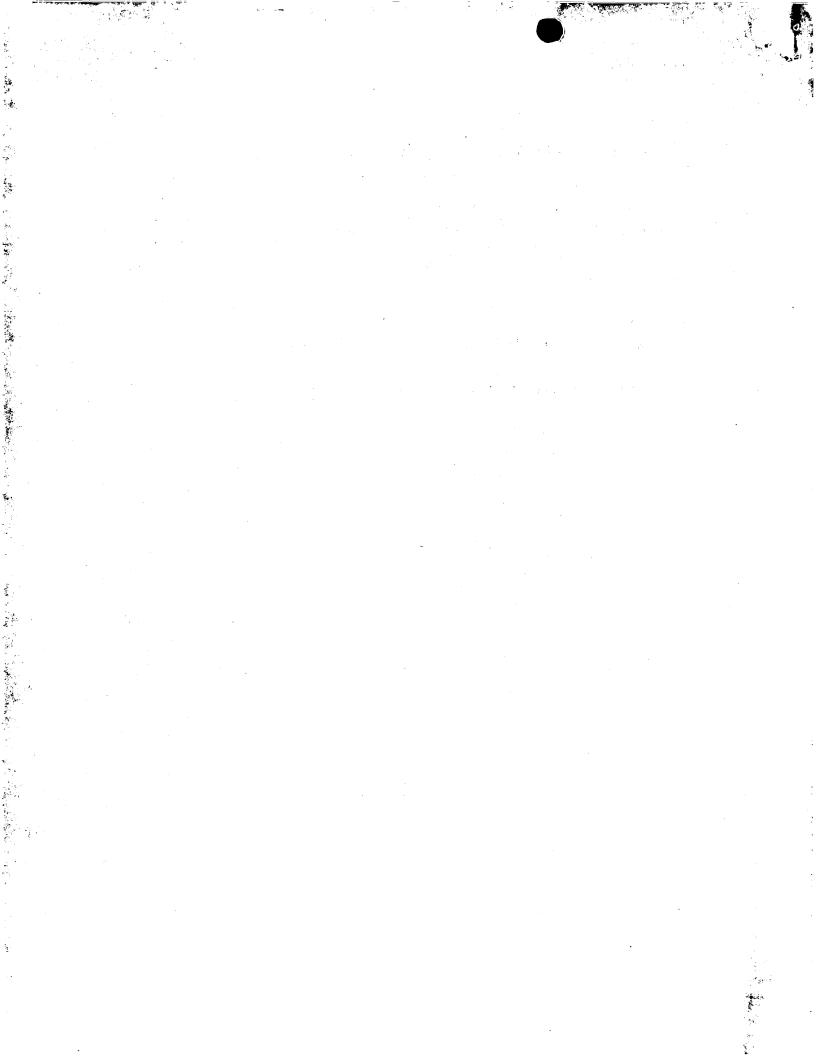
Page 10, Table 1.9

Perilla oil

C16:0 7%, C18:0 2%, C18:1 13%, C18:2 14%,

C18:3 64%

(Translator note: total 100%)



丸善株式会社

Candelenut 油 (Lumbang 油) Lallemantia 油 Chia seed 油 ソラジルゥ 람 4 7 4 ų, > ц 豑 ¥ ÷ (エゴマ油) 嗷 1・9 ₩ 営 学 学 16:0 7 リノフン酸型油脂脂肪酸組成 [%] (リノフン酸 15% 以.E) 18:0 18:1 16:2 18:3 2.9 3 4.7 1.3 1.7 12.0 = 11.2 10.8 ಶ 12 . 0 53.0 32.5 43.1 37.7 25.9 47.2 10:2, 8% 70 x ප 34.0 47.0 31.5 47.3 飽和酸 8.1% 39 8 ランパナット 笹 փ ૭ 高 J.A.O.C.S., 42, 957 ('65) J.A.O.C.S., 42, 957 ('65) 4 2 2 5 Lipid Research, 7, 394 ('62) × 霁

その他,ファニ油,ノバラ粒子油については 1・3・1 参照.

10.6

12.3 | 17.1 | 35.5 | 23.5 | 20:0, 1

6.6

2.4 1.8

12.9 | 14.9 | 43.8 | 18:4, 18.6, 20:1, 1.7

15.5

17.0

48.7

18:4, 8.2, 20:1, 1.6

J.A.O.C.S., 41, 209 ('64)

Lappula echinata 湖

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ш	共役敵型汕脂脂肪酸組成【%】	
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	١.									
油 名	16:0	18:0	18:1	16:0 18:0 18:1 18:2	18:3	4	9	舎	≯	舜
キリ仙	4	1	8	4	ω	Eleo. 80			В	
	2.5	2.9	6.4	6.7		Eleo. 81.5	'n		В	
メイチシカ 油	7	51	6			Lic. 78, ヒドロキシ酸 4	۲. او در	ドシ酸 4	В	
Momordica balsamina 泚	9.6	5.3	7.4	9.7		Eleo. 68.0	0	•	J.A.O.C.S., 42, 965 ('65)	42, 965
Momordica charantia 油	22	34	4	ω		Eleo. 56.9	9		ਸ	
Catalpa bignonoides 油	2.3	1.5	9.6	45.1		Eleo. 41.5	Ċī		J.A.O.C.S., 42, 965 ('65)	42, 965
Trichosanthes anguina 袖	Ġ.	7	ß	21		Pun. 42.8	œ		দ্য	
Ecballium elaterium 袖	9	ω	9	57		Pun. 22.2	2		দ	
Calendula officinalis 油	3.0		<u>د</u> دن	28.8		Calen.63.9			J.A.O.C.S., 42, 965 ('65)	42, 965
ホウセンカ油	5	3	11	16	26	Pari. 48			Lipids, 1, 264 ('66)	4 (766)

表 1・11 オキシ酸型油脂脂肪酸組成[%]

			28	74.	アン酸な	※ 1・11 オイン吸染質脂脂的吸煙灰(2)	6		
油名	16:0	16:0 18:0	18:1	18:2	18:3	· 6 +	他	*	舜
ドレジ哲	1.2	0.7	3.2	3.4	0.2	0.2 Ric 89.4, DiOH 1.4	11.4	J.A.o.c.s.	J.A.O.C.S., 41, 783 ('64)
	1.4	1.7	4.8	4.2	0.2	0.2 Ric 87.0, DIOH 0.4	10.4	ibid., 44, 119 ('67)	19 (*67)
	0.9	1.2	3. 3.	3.7	0.2	0.2 Ric 89.0, DIOH 1.3	I 1.3	ibid., 41, 783 ('64)	83 (764)
バッカク治	23.9	3.2	20.9	12.3		Ric 34.1, 16:1, 3.8	3.8	J.C.S., 610 ('57)	('57)
Holarrhena antidysenterica 池	5.0	2.7	7.7	7.8	1.3	Oxy 73.4		Lipids, 4, 450 ('69)	450 ('69)
Strophanthus hispidus 油	11.9	7.0	35.5	30.0		Oxy 13.5, 20:0, 2.0	2.0	ਬ	
Lesquerella denisipila 油	6	ω	22	ဖ	11	Den 50		J.A.o.c.s	J.A.O.C.S., 39, 78 ('62)
Lesquerella fendleri 池	12	22	17	7	:	Les 60		*	
Lesquerella gracilis 油	1	1	11	*	ယ	Les 72, Oxy 6		*	
Lesquerella recurvata शेष	-	2	13	6 0	ω	Les 71, Oxy 2		*	
Thymes vulgaris h	4.8	4.8 1.8 7.7 12.4 55	7.7	12.4	1	a-OH lin 13, Norlin 2	Vorlin 2	Lipids, 4, 9 ('69)	9 ('69)

Cardimine impatiens Helichrysum bracteatum 油 Erlangea tomentosa 油 Crepis blennis 油 Chamaepeuce afrait Lesquerella stonensis 油 こくログキ Crepis aurea 油 Vernolic 孢子油 Dimorphotheca 油 Xeranthemum annuum 部 畓 绐 16:0 9 2 2.8 2.5 3.1 3.7 18:0 18:1 4 0.6 1.6 1.4 2.6 1.7 w 21 ಠ ထ 16 ಭ == 18:2 18:3 25 5.1 ᇥ 36 6 26.1 N z 4 0.5 Dim 66.5, ケトジェン酸 2.3 0.3 Vern 76.7 0.1 Vern 52.0 20:1, 6, 22:1, 25, 24:1, 1.5 エボキシ 18, 3, エボキシ18: 1,10 Vern 54 Vern 68 22:1, 2, Den 39 ОН 18:2, 11 OH dienoic acid 4 C ro 14, Cre 10, Hele 7 OH 18:1, 7, OH 16:0, 2 DIOH 2.5 쇸 J.A.O.C.S., 42, 939('65) ibid., 44, 172 ('67) ibid., 42, 165 ('65) Lipids, 1, 326 ('66) ibid., 45, 250 ('68) J.A.O.C.S., 41, 108 ('64) Lipids, 2, 261 ('67) ibid., 42, 817('65) I.A.O.C.S., 46,473 ('69) × 舜

Ric: リシノール酸, Oxy: 9・オキシーシス-12・オクタデセン酸, Les: Lesquerolic 酸, a-OH lin: a-オキシリノール酸, Den: Densipolic 酸, Norlin: Norlinolenic 酸, DiOH: ジオキン酸, OH 18:1: オキシオクタデセン酸, Dim: Dimorphecolic酸, Coro: Coronaric 酸, Vern: Vernolic 酸, Cre: Crepenynic 酸, Hele: Helenynolic 酸, Phi: Phioionolic 酸.

表 1・12 環状酸含有油脂脂肪酸組成 [%] (エポキシ酸型を除く)

	*	£ 71.	E MENN	田田田	相助如数	MIN [%] (2	数 1·12 场外联合名面组组的联系队(6)、1·1·1·1·1·1·1·1·1·1·1·1·1·1·1·1·1·1·1·	() 3/3		
百名	16:0	16:0 18:0 18:1 18:2 18:3	18:1	18:2	18:3	ት	9	(E)	≯	舜
Sterculia foetida油	20.5	3.2	11.0	12.2	0.5	0.5 Ster 50.0			J.A.O.C.S., 38, 696 ('61)	38, 696 (*61)
Hibiscus syriacus 油 17.0	17.0	1.6	1.6 13.0	56.5	0.5	Ster 5.2, D	0.5 Ster 5.2, Dihydro Ster 1.5	r 1.5	7	•
Lavatera trimestris 油	18.1	3.1	3.1 27.0 44.1	44.1	0.2	Ster 0.9, E	0.2 Ster 0.9, Epoxyoleic 3.2	3.2		
ショウルムーグラ油	4.0	14.6				Hyd 34.9, Chau 22.5, Gorl 22.6	Chau 22.5,			
Hydnocarpus wightiana 油	1.8		6.5			Hyd 48.7, Chau 27.0, Gorl 12.2	Chau 27.0,		Ħ	
(ヒドノカルプス治)										
Hydnocarpus anthelmintica 油	7.5		12.3			Hyd 67.8, Chau 8.7, Gorl 1.4	Chau 8.7,		Ħ	
Oncoba echinata 油 (ゴルリ脂)	7.8		2.2			Chau 74.9, Gorl 14.7	Gorl 14.7		Ħ	
0.	•				2		WEV 11 -74)		

Ster: Sterculic 敬, Hyd: ヒドノカルピン酸, Chau: ジョウルムーグリン酸, Gorl: ゴルリン酸,

表 1·13 水產動物油脂肪酸組成 [%]

4	۲	~	4	ţı		4			₩	酥	
٧.	7		4	৫		7			4		
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畓	淮	畓	音	箝	畓	畓	畓		畓	谷	
6.6	6.6	3.9	2.8	7.6	1.6	2.0	1.833	1.8	4.2	14:0	
표	6.6 15.5	15.4	17.2	7.618.3	냃	21.:	8	10.	10.C	16:0	l
5.	9.5	5.9	6.3	00	1.613.2 5.7	6.	2	6.	9	16:	l
1 2.	5 3.7	2	. <u></u>	<u>.23</u>	74.	2	4	<u>.</u>	<u>51</u>	18:	ı
6.9 13.4 5.1 2.4 10.1 2.3 2.3 5.9 13.4 0.9 8.4 13.8 1.7 12.0 0.9	77.	2.316.4 1.5 0.9 0.711.8 1.912.1 7.7 1.315	\$	8.3 2.216.9 1.6 0.6 2.8 9.4 0.4 8.611.6 1.3 7.6 0.9	4.328.5 0.7 0.6 0.810.5 0.8 3.710.3 3.1 6.5 1.9	2.021.2 6.0 2.727.5 1.3 0.6 0.7 5.8 2.5 7.9 4.1 2.8 10.4 0.8	.4 2.4 4.011.8 1.2 0.8 1.2 1.6 3.212.4 0.7 0.621.9	10.7 6.9 3.723.9 1.5 0.6 2.9 8.8 1.0 8.0 5.3 1.314.3	4.2 10.6 9.5 1.4 21.1 1.0 0.4 0.8 19.0 0.4 9.5 7.3 0.6 12.6	14:016:016:118:018:118:218:318:420:120:420:522:122:522:624:1	,
1 2.	17.3 2.5 1.3 2.8 8.1 2.5 9.6 7.8 2.8 8.5	<u>+-</u>	2		<u>5</u>	<u>5</u>	<u>.</u>	9	-	튫	
2	5	0	0	6	-7	30	20	5	<u>-</u>	造	
<u>iu</u> 5	<u>23</u> 23	9	<u>4-</u>	<u>65</u>	6	6	8	6 2	<u> </u>	318	İ
<u>.e.</u>	<u></u>	-7=	<u>00</u>	<u></u>	<u>.8</u>	<u>:-</u>	<u>.2</u>	<u>.</u> 0	<u>8.</u>	120	A CAMPAGE AND INCOME.
<u>4.</u>	Ë	80	ion (13		.51	80	<u>.</u>	<u>80</u>	<u>.</u>	120	
<u></u>	55	<u>.</u>	ق	-	<u>8</u>	55	2	<u>.</u>	<u></u>	14 22	ļ
3.41	6	2.1	55	<u>.</u>	3	.6	4:	õ	.5	-52	
<u>ت</u>	7.8	-7	2.0	<u>.6</u>	<u></u>	<u></u>	0.7	5	7.3	2:12	ŀ
1.7	2.8	1.5	3	1.3	3.1	2.8	0.6	1.3	0.6	2:5	ľ
12.0	8.5	<u>:</u>	18.2	7.6	6.5	<u></u>	21.9	14.3	12.6	22:6	
0.9	1.6	2.5	2.5	0.9	1.9	0.8				24:1	
		"	4.927.8 2.0 0.4 0.8 4.5 3.0 4.5 2.0 3.218.2 2.5 油化, 1	' FJ	'n	স	Ħ	IJ	J.A.O.C.S., 46, 554 ('69)	≯.	
4	•	7	12, 278 ('63)						c.s.		
			(† 83						46,		
			_						554 ('6	癸	

6. 界面活性剤

する添加剤について述べたが、この他の添加剤および商品価値を向上する目的で下配のような 添加剤がある.

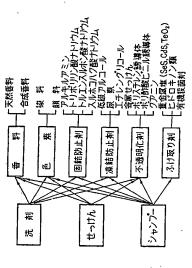


図 6・46 その 句の 溶 占 莖

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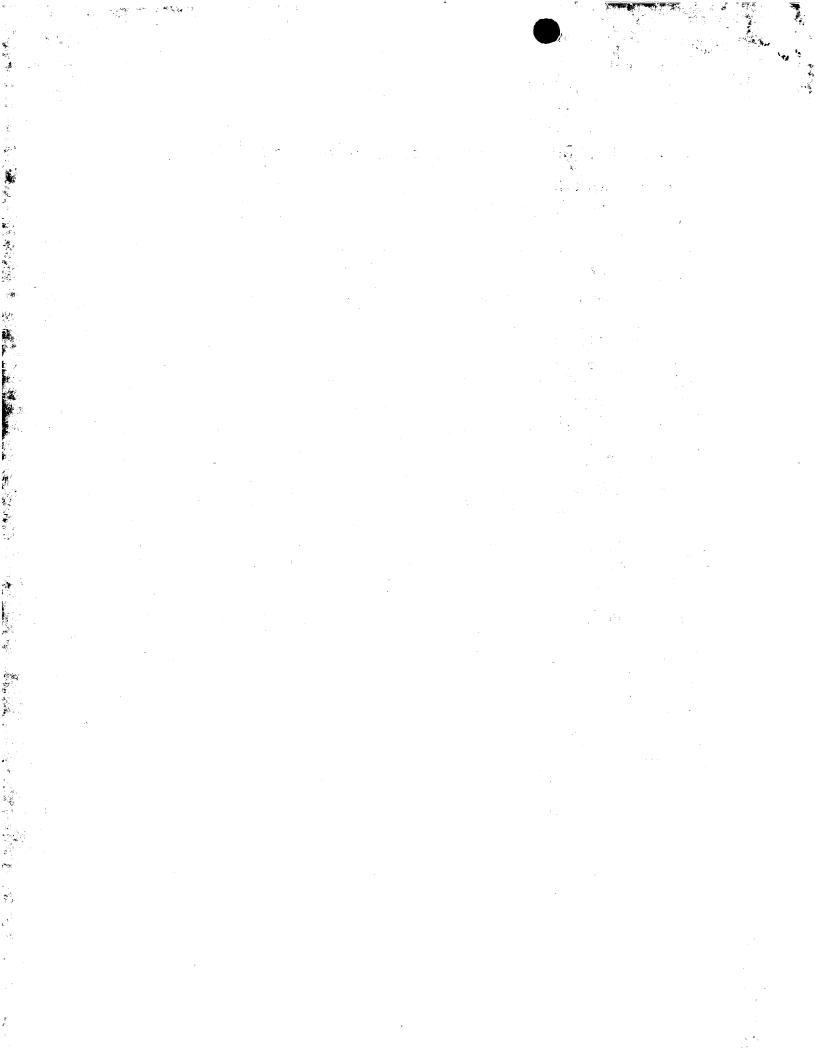
"AA, EPA, DHA (Highly Unsaturated Fatty Acid)"

edited by Hikaru SHIKAYAMA published on September 30, 1995 by Kosei-Sha Koseikaku

Page 13
Table 2-1
Fatty Acid Composition of Total Lipids of Various Blue-green Algae

			Al	gal spec	ies		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
14:0	1	•	2	-	tr	1	1
16:0	46	32	32	44	28	22	18
16:1	46	22	15	10	4	3	9
16:2	-	1	-	tr	•	•	-
18:1	3	11	7	5	5	16	21
18:2	-	17	10	13	17	15	32
18:3 ω6	-	-	-	22	31	13	-
18:3 ω3	-	16	21	tr	-	6	1
18:4	-	-	-	_	-	11	2
Total *	96	99	87	94	85	87	84

- (1) Anacystis nidulans
- (2) Anabaena variabilis
- (3) Nostoc muscorum
- (4) Spirulina platensis
- (5) Synechosistis 6714
- (6) Tolypothrix tenuis
- (7) Phormidium sp.
- * Calculated by the translator



Page 14 Table 2-2

Fatty Acid Composition of Total Lipids of Various Red Algae

				Algal	species			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
14:0	5	2	4	2	2	2	2	2
16:0	33	27	35	24	29	24	31	30
16:1	8	2	1	3	1	3	2	2
18:1	14	8	8	5	5	9	5	8
18:3	10	1	1	1	_	1	1	1
ω6	10						•	
18:3 —ω-3—	<u>-</u>	<u>-</u>	_	1	-	-	-	-
20:4 ω6	10	5	24	6	32	9	54	12
20:5 ω3	5	52	22	52	28	47	2	38
Total *	85	97	95	94	97	95	97	93

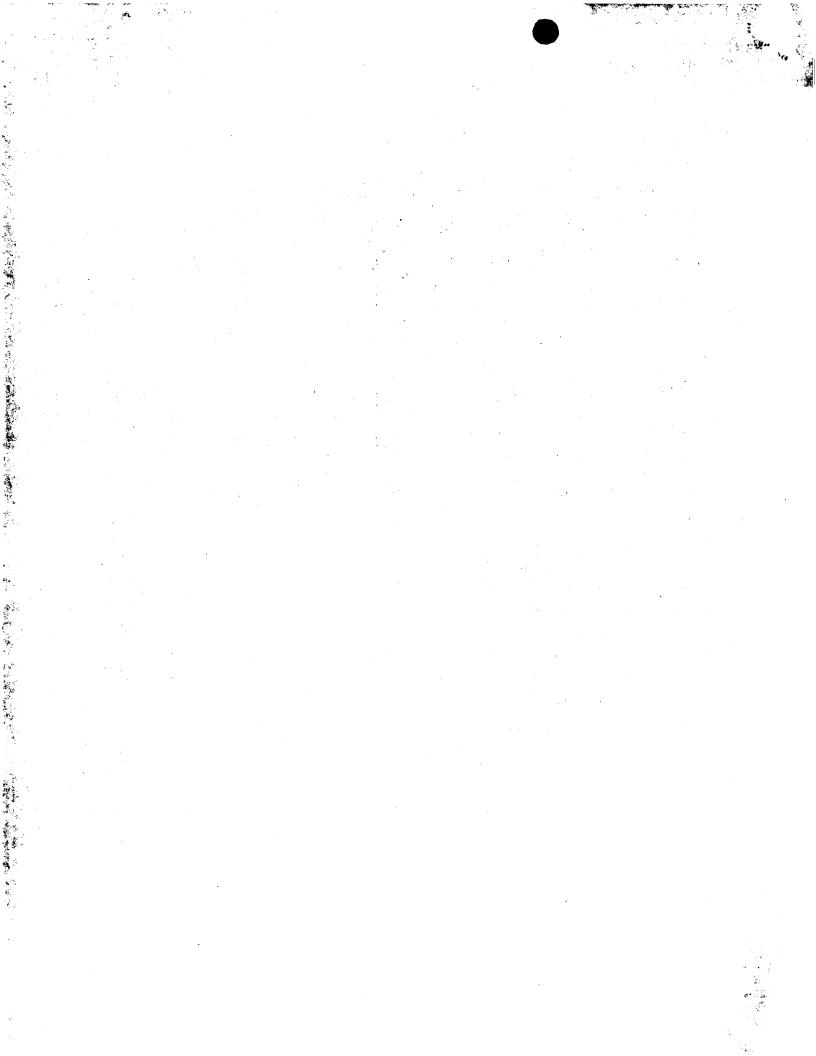
- (1) Alsidium corallinum
- (2) Batrachospermum sp.
- (3) Chondrus ocellatus
- (4) Corallina officinails
- (5) Gelidium amansii
- (6) Gloiopeltis furcata
- (7) Gracilaria verrucosa
- (8) G. gigas
- * Calculated by the translator

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Page 14
Table 2-2
Fatty Acid Composition of Total Lipids of Various Red Algae

				Algal s	species			
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
14:0	5	4	1	3	-	-	-	4
16:0	22	21	22	27	26	35	34	29
16:1	12	4	12	2	3	3	tr	5
18:1	9	8	5	11	4	2	2	15
18:3	2	1	1	1	1	+	4	
ω6	2	1	1	1	1	tr	tr	-
18:3	~	,	1	4		***	4	1
-ω-3	2	3	1	tr	-	tr	tr	1
20:4	10			12	2	1.6	42	1.4
ω6	10	6	11	13	2	16	42	14
20:5	11	25	22	20	60	26	8	24
ω3	11	35	33	38	52	36	°	24
Other	6(a)	-	11(b)					
Total	79	82	97	95	88	92	86	92

- (9) Hypnea musciformis (a) $22:6 \omega 3$
- (10) Laurencia pinnatifida
- (11) Meristotheca papulosa (b) 16:3
- (12) Odonthalia dentata
- (13) Porphyra yezoensis
- (14) Porphyridium cruentum
- (15) P. cruentum
- (16) Rhodomela subfusca
- * Calculated by the translator



Page 27
Table 2-18
Fatty Acid Composition of Total Lipids of Various Green Algae

		Al	gal spec	ies	
	(1)	(2)	(3)	(4)	(5)
14:0	1	-	1	1	1
16:0	17	20	20	13	35
16:1	3	3	3	10	2
16:2	18	tr	1	3	1
16:3	-	7	-	5	tr
16:4	7	-	•	7	15
18:1	4	46	24	8	8
-18:2- ω6	37	10	5	6	6
18:3 ω3	9	12	31	8	30
18:4 ω3	-	_	-	-	-
20:5 ω3	-	-	-	10	-
Total *	96	98	85	71	98

Microphytic forms

- (1) Chlorella regularis
- (2) C. pyrenoidosa
- (3) Chlamydomonas reinhardtii
- (4) Dunaliella tertiolecta
- (5) Scenedesmus obliquus
- * Calculated by the translator

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Page 27
Table 2-18

Fatty A	cid Con	position	of Tota		of Vario	us Greer	n Algae	
	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
14:0	1	6	4	2	1	1	10	1
16:0	21	18	11	26	30	13	18	30
16:1	3	16	10	3	2	3	6	2
16:2	1	1	3	3	tr	1	2	1
16:3	2	1	2	9	1	3	3	2
16:4	14	7	-	-	10	16	-	9
18:1	4	9	18	11	7	9	26	11
_18:2	 7		1 0	—9—	9	6	13	10
ω6 18:3 ω3	13	14	16	15	17	21	5	15
18:4 ω3	17	4	5	1	11	17	2	6
20:5 ω3	3	12	4	3	2	2	4	2
Total	86	91	83	82	90	92	89	89

Macrophytic forms

- (6) Blidingia minima
- (7) Cladophora albida
- (8) Codium elongata
- (9) C. fragiele
- (10) Enteromorpha linza
- (11) E. intestinalis
- (12) Halimeda tuna
- (13) Ulva fenestrata
- * Calculated by the translator

